

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the present application.

Listing of Claims:

1. (Currently Amended) A method for providing improved reliability in an aircraft door flight lock actuator comprising:

storing energy provided to the actuator in a mechanical energy storage means and an electrical energy storage means during powering of the actuator;

powering the actuator using the energy stored in ~~the mechanical energy storage means and the~~ electrical energy storage means to complete an unlocking stroke in the absence of aircraft power; and

controlling a linear velocity and a stall current of the actuator.

2. (Original) The method defined in claim 1, wherein storing energy in the mechanical energy storage means comprises deforming a compression coil spring during a powered locking stroke of the actuator.

3. (Original) The method defined in claim 1, wherein storing energy in the electrical energy storage means comprises charging at least one capacitor during a powered locking stroke of the actuator, and during a subsequent powered stall of the actuator.

4. (Withdrawn) The method defined in claim 1, wherein storing energy in the electrical energy storage means comprises charging a rechargeable battery during a powered locking stroke of the actuator, and during a subsequent powered stall of the actuator.

5. (Currently Amended) The method defined in claim 1, wherein the mechanical energy storage means and the electrical energy storage means are ~~fully~~ redundant.

6. (Currently Amended) The method defined in claim 1, wherein controlling the linear velocity and the stall current of the actuator comprises:

sensing a rotational speed of an actuator motor;

reducing the voltage at a motor's terminals if the rotational speed is higher than a maximum speed;

sensing a ~~first~~ current supplied to the motor; and

~~reducing the first current voltage at the motor's terminals if the rotational speed is higher than a maximum speed, or if the first the sensed current is higher than a maximum current.~~

7. (Currently Amended) The method defined in claim 6, wherein controlling the linear velocity of the actuator further comprises:

shunting a ~~second~~ current generated by the motor into a damper circuit to place an electrical load on the motor if the supplied voltage ~~first current~~ is substantially zero and the rotational speed is higher than the maximum speed.

8. (Original) The method defined in claim 6, wherein sensing the rotational speed of the motor comprises measuring a frequency of a Hall effect sensor signal.

9. (Withdrawn) The method defined in claim 6, wherein sensing the rotational speed of the motor comprises measuring a back electro-motive force generated by the motor.

10. (Withdrawn) The method defined in claim 6, wherein reducing the first current comprises reducing a voltage supplied to the motor.

11. (Withdrawn) The method defined in claim 6, wherein reducing the first current comprises pulse-width-modulating a power signal supplied to the motor.

12. (Currently Amended) A system for providing improved reliability in an aircraft door flight lock actuator comprising:

means for storing energy provided to the actuator in a mechanical energy storage means and an electrical energy storage means during powering of the actuator;

means for powering the actuator using the energy stored in ~~the mechanical energy storage means~~ and the electrical energy storage means to complete an unlocking stroke in the absence of ~~aircraft~~ power; and

means for controlling a linear velocity and stall current of the actuator.

13. (Previously Presented) The system defined in claim 12, wherein the means for storing energy in the mechanical energy storage means comprises means for deforming a compression coil spring during a powered locking stroke of the actuator.

14. (Previously Presented) The system defined in claim 12, wherein the means for storing energy in the electrical energy storage means comprises means for charging at least one capacitor during a powered locking stroke of the actuator, and during a subsequent powered stall of the actuator.

15. (Withdrawn) The system defined in claim 12, wherein the means for storing energy in the electrical energy storage means comprises means for charging a rechargeable battery during a powered locking stroke of the actuator, and during a subsequent powered stall of the actuator.

16. (Currently Amended) The system defined in claim 12, wherein ~~the means for storing energy in the~~ mechanical energy storage means and the electrical energy storage means are ~~fully~~ redundant.

17. (Currently Amended) The system defined in claim 12, wherein the means for controlling the linear velocity and the stall current of the actuator comprises means for:

sensing a rotational speed of an actuator motor;

reducing the voltage at a motor's terminals if the rotational speed is higher than a maximum speed;

sensing a ~~first~~ current supplied to the motor; and

reducing the ~~first current~~ voltage at the motor's terminals if the ~~rotational speed is higher than a maximum speed, or if the first~~ the sensed current is higher than a maximum current.

18. (Currently Amended) The system defined in claim 17, wherein the means for controlling the linear velocity of the actuator comprises means for:

shunting a ~~second~~ current generated by the motor into a damper circuit to place an electrical load on the motor if the supplied voltage ~~first current~~ is substantially zero and the rotational speed is higher than the maximum speed.

19. (Previously Presented) The system defined in claim 17, wherein the means for sensing the rotational speed of the motor comprises means for measuring a frequency of a Hall effect sensor signal.

20. (Withdrawn) The system defined in claim 17, wherein the means for sensing the rotational speed of the motor comprises means for measuring a back electro-motive force generated by the motor.

21. (Withdrawn) The system defined in claim 17, wherein the means for reducing the first current comprises means for reducing a voltage supplied to the motor. .

22. (Withdrawn) The system defined in claim 17, wherein the means for reducing the first current comprises means for pulse-width-modulating a power signal supplied to the motor.